

Claims

1. Device for treating a surface of a substrate, comprising a treatment chamber for receiving the substrate therein, at least one plasma source for generating a plasma, which plasma source is connected to the treatment chamber, and comprising inlet means for admitting at least one reactant into a flow path of the plasma, wherein the plasma source comprises at least one cathode and at least one anode between which a system of at least one cascade plate is received, which at least one cascade plate is provided with an opening for passage of the plasma, characterized in that the at least one cascade plate is provided with a number of passage openings, wherein corresponding openings of successive cascade plates are substantially mutually aligned, and that between the at least one cathode and the system of cascade plates there is a plasma space present which is in open communication with the passage openings in the at least one cascade plate of the system.
- 15 2. Device as claimed in claim 1, characterized in that the passage openings are ordered at least almost equidistantly from each other in the at least one cascade plate.
3. Device as claimed in claim 1 or 2, characterized in that the at least one cascade plate is provided with at least three passage openings.
- 20 4. Device as claimed in one or more of the foregoing claims, characterized in that the inlet means are adapted to admit the reactant, on a side of the adjacent cascade plate remote from the plasma space, into flow paths of the plasma extending through the openings.
- 25 5. Device as claimed in one or more of the foregoing claims, characterized in that less than one cathode is provided per passage opening in the adjacent cascade plate.
- 30 6. Device as claimed in one or more of the claims 1-4, characterized in that at least one cathode is provided per passage opening in the adjacent cascade plate.

7. Plasma source for generating a plasma, comprising at least one cathode and at least one anode, in addition to a system located therebetween of at least one cascade plate with a passage opening for a generated plasma, characterized in that the at least one cascade plate is provided with a number of passage openings, each intended for throughfeed of a separate plasma flow, and that the openings are in open communication with a common plasma space which is received between the system and the at least one cathode.

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